

### **REMARKS**

Claims 32-41 are now in the case. Claims 1-31 are cancelled. Claims 32-41 have been added. Support for the newly added claims can be found in the claims as originally filed and through out the specification, see in particular, pages 4-6. No new matter has been added.

### **OBJECTION OF THE SPECIFICATION**

The specification is objected to because the specification contains browser-executable code. The Office requests that all use of the prefix “www.” be removed.

Applicant has provided the requested amendments as is indicated above.

### **REJECTION UNDER 35 U.S.C. §101 and §112, First Paragraph**

Claims 1-11, 14-23 and 26 remain rejected under 35 U.S.C. §101 and §112, first paragraph, on the basis that these claims allegedly lack patentable utility, and that one skilled in the art would therefore not know how to use the invention.

Applicant respectfully traverses this rejection. However, merely to advance prosecution of the claims towards allowance, claims 1-11, 14-23 and 26 have been cancelled. Applicant reserves the right to pursue the subject matter of the cancelled claims in continuation applications. New claims 32-41 are directed towards an isolated polypeptide comprising SEQ ID NO:12.

Attached to this response is a Declaration under 37 C.F.R. § 1.132 by the inventor Douglas P. Cerretti presenting data demonstrating that the presence of ADAM 29dis-Fc binding to the surface of HUVECs is directly proportional to the increased MFI displayed for that sample over the control sample, see figure 1. ADAM 29dis-Fc refers to an Fc chimeric containing the ADAM 29 disintegrin domain. The integrin “activation” conditions brought about by incubation in the presence of divalent cations lends itself to the reasonable expectation that ADAM 29dis-Fc is binding to one, or more, integrins on the surface of HUVECs.

Integrins are a family of cell adhesion receptors that bind various ligands including extracellular matrix proteins and other cell surface molecules. Integrins are involved in cell-to-cell adhesion, cell-to-matrix adhesion, and inflammatory responses (page 1, lines 21-31).

ADAM 29 is a membrane-anchored protein comprising a disintegrin and a metalloproteinase domain. The disintegrin domains of some ADAM proteins have been

found to bind integrins, for example, binding of fertilin (fertilin  $\alpha$ /ADAM 1 and fertilin  $\beta$ /ADAM 2) to integrins is required for sperm-egg interaction (see page 2, lines 9-11 and 20). Such cell-cell interactions are important for cell-cell recognition. As such, adhesion molecules, such as ADAM 29, are useful as mediators of cell-cell interaction.

Utility under 35 U.S.C. §101 is a minimal threshold issue that can be satisfied by a showing of any use that is “substantial,” “credible,” and “specific.” (MPEP §2107). A small degree of utility is sufficient. A specification that provides disclosure of a utility that corresponds in scope to the subject matter sought to be patented and that is substantial, credible, and specific must be taken as sufficient to satisfy the utility requirement of 35 U.S.C. §101 for the entire claimed subject matter unless there is reason for one skilled in the art to question the objective truth of the statement of utility. Applicant’s invention meets these standards. Integrins are known to transduce signals and modulating those interactions through adhesion molecules such as ADAM 29, would be useful to mediate cell-cell interactions. One of skill in the art would appreciate the usefulness of an adhesion molecule that binds integrins, particularly one that has limited tissue specificity. Such use is substantial, credible and specific.

Therefore, for at least the reasons presented above, Applicant has asserted in the specification a specific, substantial, and credible use for compositions of matter of the invention, and withdrawal of the rejection of claims 1-11, 14-23 and 26 under 35 U.S.C. §101 and §112, first paragraph, is respectfully requested.

**REJECTION UNDER 35 U.S.C. §112, First Paragraph (written description)**

Claims 1, 3-10, 14-22 and 26 remain rejected under 35 U.S.C. §112, First Paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the invention was filed, had possession of the claimed invention.

Applicants respectfully traverse these grounds for rejection. As discussed above, claims 1, 3-10, 14-22 and 26 have been cancelled. Applicants reserve the right to pursue the cancelled matter in future continuation applications. Therefore for these reasons Applicant believes that the rejection is moot and withdrawal of the rejection is respectfully requested.

**REJECTION UNDER 35 U.S.C. §112, First Paragraph (enablement)**

Claims 1, 3-10, 14-22 and 26 remain rejected under 35 U.S.C. §112, First Paragraph, because the specification, while being enabling for the preparation of a polypeptide having the amino acid sequence of the elected SEQ ID NO:12 having a disintegrin activity, does not reasonably enable preparation of amino acid sequences having disintegrin activity that diverge from the amino acid sequence of SEQ ID NO:12 by unlimited amino acid substitutions, deletions and insertions, or combinations thereof anywhere within SEQ ID NO:12.

Applicants respectfully traverse these grounds for rejection. As discussed above, claims 1, 3-10, 14-22 and 26 have been cancelled. Therefore for these reasons Applicant believes that the rejection is moot and withdrawal of the rejection of is respectfully requested.

**REJECTION UNDER 35 U.S.C. §112, Second Paragraph**

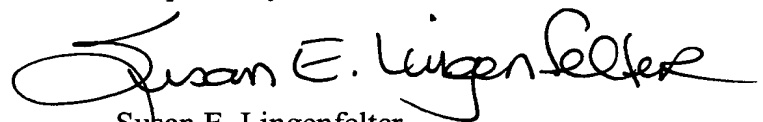
Claims 1-11, 14-23, and 26 remain rejected under 35 U.S.C. §112, Second Paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicant respectfully traverses these grounds for rejection. As discussed above, claims 1-11, 14-23, and 26 have been cancelled. Therefore for these reasons Applicant believes that the rejection is moot and withdrawal of the rejection of is respectfully requested.

**CONCLUSION**

Applicants submit that the presented claims are in condition for allowance. A favorable action is earnestly requested. Applicants' attorney invites the Examiner to call her at the number below if any issue remains outstanding.

Respectfully submitted,



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